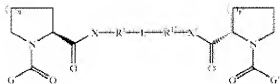


This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for rendering a subpopulation of mammalian hematopoietic stem cells susceptible to divalent ligand-induced ~~drug-induced~~ growth, proliferation or differentiation, which method comprises

transducing one or more cells of a population of mammalian primary hematopoietic stem cells with at least one retroviral vector comprising at least one recombinant DNA construct encoding a fusion protein which comprises at least one signaling domain derived from an intracellular portion of a thrombopoietin receptor and at least one [[drug]] ligand-binding domain derived from F36V which is heterologous with respect to the signaling domain and binds to a selected divalent ligand capable of inducing association of two or more molecules of F36V~~drug~~; and

such that upon exposure of ~~exposing~~ the transduced cells to a concentration of the [[drug]] ~~divalent ligand having the formula:~~



effective to induce association of two or more of the encoded fusion proteins, ~~thereby inducing~~ growth, proliferation or differentiation of said cells is induced;

wherein the transduction is carried out *in vivo* or after the cells have been removed from the mammal from which the cells originated, and wherein said transduced cells are suitable for introduction into a mammal.

Claims 2-3 (Canceled).

4. (Currently Amended) The method of Claim 1, [[2]] wherein the population of mammalian primary hematopoietic stem cells comprises bone marrow cells, cord blood cells, peripheral blood cells or a subpopulation of cells obtained from either.

5. (Currently Amended) The method of Claim 1, wherein the mammalian primary hematopoietic stem cells are human cells.

Claims 6-11 (Canceled).

12. (Currently Amended) The method of Claim 1 wherein the cells are removed from the mammal prior to being transduced with the retroviral vector comprising at least one recombinant DNA construct~~[[~~⊕~~]]~~.

13. (Original) The method of Claim 12 which further comprises introducing the transduced cells so obtained into a mammal.

14. (Currently Amended) The method of Claim 13 wherein the transduced cells are treated with divalent ligand ~~[[~~drug~~]]~~ prior to their introduction into the mammal.

15. (Original) The method of Claim 13 wherein the cells are allogeneic with respect to the mammal.

16. (Original) The method of Claim 13 wherein the cells are syngeneic with respect to the mammal.

17. (Original) The method of Claim 13 wherein the cells are autologous with respect to the mammal.

18. (Original) The method of Claim 13 wherein the mammal is a human.

19. (Original) The method of Claim 1 wherein the cells are transduced within the mammal.

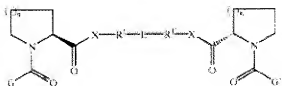
Claim 20 (Canceled).

21. (Currently Amended) A method for expanding a subpopulation of mammalian hematopoietic stem cells comprising:

(a) providing a subpopulation of mammalian primary hematopoietic stem cells which contain at least one retroviral vector comprising at least one recombinant DNA construct encoding a fusion protein which (i) ~~[[~~⊕~~]]~~ comprises at least one signaling domain derived from a thrombopoietin receptor and at least one ~~[[~~drug~~]]~~ divalent ligand-binding domain derived from

F36V, and (ii) ~~[(b)]~~ induces growth, proliferation or differentiation upon multimerization with one or more other fusion proteins containing at least one signaling domain; and

(b) treating the subpopulation of cells with a concentration of ~~the drug~~ a divalent ligand capable of inducing association of two or more molecules of F36V having the formula:



~~effective to induce association of two or more fusion proteins;~~

wherein said treatment with said divalent ligand ~~[(drug)]~~ is carried out *in vivo* or after said cells have been removed from the mammal in which the cells originated, and wherein said transduced cells are suitable for introduction into a mammal.

Claims 22-23 (Canceled).

24. (Currently Amended) The method of Claim 21, ~~[(22)]~~ wherein the population of mammalian primary hematopoietic stem cells comprises bone marrow cells, cord blood cells, peripheral blood cells, or a subpopulation of cells obtained from either.

25. (Currently Amended) The method of Claim 21, wherein the mammalian primary hematopoietic stem cells are human cells.

Claims 26-31 (Canceled).

32. (Currently Amended) The method of Claim 21 wherein the cells are removed from the mammal prior to the transduction thereof with the retroviral vector comprising at least one recombinant DNA construct~~[(+)]~~.

33. (Original) The method of Claim 32 which further comprises introducing the transduced cells so obtained into a recipient mammal.

34. (Currently Amended) The method of Claim 33 wherein the transduced cells are treated with the divalent ligand ~~[(drug)]~~ prior to their introduction into the recipient mammal.

35. (Original) The method of Claim 33 wherein the cells are allogeneic with respect to the mammal.

36. (Original) The method of Claim 33 wherein the cells are syngeneic with respect to the mammal.

37. (Original) The method of Claim 33 wherein the cells are autologous with respect to the mammal.

38. (Original) The method of Claim 33 wherein the mammal is a human.

39. (Original) The method of Claim 21 wherein the cells are transduced within the mammal.

Claim 40 (Canceled).

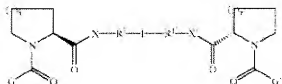
41. (Currently Amended) The method of Claim 21, wherein the cells are treated with the divalent ligand ~~[[drug]]~~ *ex vivo*.

42. (Currently Amended) The method of Claim 21, wherein the cells are treated with the divalent ligand ~~[[drug]]~~ *in vivo*.

Claims 43-55 (Canceled).

56. (Currently Amended) A method for treating or preventing a hemopoietic disease or pathological condition in a mammal, comprising introducing into the mammal the bone marrow cell or cord blood cell or peripheral blood cell of Claim 4 or Claim 24 46.

57. (Currently Amended) The method of Claim 56 which further comprises administering to the mammal ~~a dimerizing drug which binds to the fusion protein and thereby induces the growth, proliferation or differentiation of the cell~~ a divalent ligand having the formula:



Claim 58 (Canceled).

59. (Original) A method for treating or preventing a hemopoietic disease or pathological condition in a mammal, comprising expanding a subpopulation of hemopoietic cells by the method of Claim 24 and introducing the resultant cells to the mammal.

Claims 60-88 (Canceled).

Please add the following new claims:

60. (New) The method according to claim 1, wherein said divalent ligand is selected from the group consisting of AP1903, AP20187, and AP1510.

61. (New) The method of claim 21, wherein said divalent ligand is selected from the group consisting of AP1903, AP20187, and AP1510.

62. (New) The method of claim 57, wherein said divalent ligand is selected from the group consisting of AP1903, AP20187, and AP1510.